

Research Activity Report
 Supported by “JSPS Core-to-Core Program(International Core of Excellence for
 Tropical Biodiversity Conservation focusing on Large Animal Studies)” “Leading
 Graduate Program in Primatology and Wildlife Science”
 (Please be sure to submit this report after the trip that supported by CETbio,PWS.)

2018. 06, 08	
Affiliation/Position	National Institute of Amazon Research/ PhD student
Name	Thiago Alexandre Petersen

1. Country/location of visit
Yakushima island, Kagoshima, Japan
2. Research project
Yakushima Field Science Course - Plant Team Species Diversity of Ferns and Bryophytes in Yakushima, Japan
3. Date (departing from/returning to Japan)
2018. 05. 19 – 2018. 05. 25 (7 days)
4. Main host researcher and affiliation
Dr. Wataru Shinohara, Professor at Faculty of Education, Kagawa, University; Dr. Hiroshi Kudoh, Center for Ecological Research, Kyoto University
5. Progress and results of your research/activity (You can attach extra pages if needed)
Please insert one or more pictures (to be publicly released). Below each picture, please provide a brief description.
<p>During this visit, I conducted research on Ferns (Pteridophyta). Ferns are vascular plants that not produce flowers or seeds. These plants reproduce using spores, which give rise to an individual, the gametophyte. These plants are formed by a stem, usually a Rhizome and their leaves are often composed or recomposed, or in the form of a spiral. The leaves have, on lower face, small organs, which contain the spores that can be spread by the wind. The objective of the plant team work in this field course was to collect ferns gametophytes (students) and sporophytes (Professor), additionally, were collected bryophytes from the sporophytes. Were sampled 4 different sites: (1) Onoaida Trail (161 m), (2) Onoaida Trail (~350 m), (3) Yodogo Trail (~1300 m), (4) Menko (185 m). The activity schedule is as follows:</p> <p>2017.5.19 Arrive Yakushima 2017.5.20 Sample collection at Onoaida trail (site 1 and 2) 2017.5.21 Samples collection at Yodogo Trail (site 3) 2017.5.22 Sample collection at Menko river (site 4) 2017.5.23 Presentation preparation 2017.5.24 Presentation 2017.5.25 Leave Yakushima</p> <p>May 19th: The students departure towards Yakushima Island from Itami International airport in Osaka. Arriving at Yakushima, the students meet with the professor Hiroshi Kudoh for lunch. After lunch, the students departed to the PWS building and meet the professor Shinohara and Goro Hanya. The professors takes the students for a brief drive road and walking to observe local flora and fauna (e.g. Yakushima Sika Deer - <i>Cervus nippon yakushimae</i> and Japanese Macaque - <i>Macaca fuscata yakui</i>). Backing on the PWS building, after the dinner, members of plant team had a short meeting plan for the next day activities</p> <p>May 20th: The plant team students and the plant team professors (Shinohara and Kudoh) departed on the morning to the first and second collection sites. After the sampling, the students went back to the PWS building. The students looked over the samples and evaluated which samples were gametophytes. Were cleaned the samples, cut in two (voucher specimen and DNA specimen), and placed into tubes with etanol 80%. Sporophytes were separated to dry using newspaper and dryer.</p> <p>May 21th: The plant team students and the plant team professors (Shinohara and Kudoh) departed on the morning to</p>

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the third collection site. After the sampling, the students went back to the PWS building. The students looked over the samples and evaluated which samples were gametophytes. Were cleaned the samples, cut in two (voucher specimen and DNA specimen), and placed into tubes with etanol 80%. Sporophytes were separated to dry using newspaper and dryer. Additionally, the students searched for bryophytes in the sporophytes samples.

May 22th: The plant team students and the plant team professors (Shinohara and Kudoh) departed on the morning to the forth collection site. The activities were similar to the last day.

May 23th: The plant team students and the plant team professors (Shinohara and Kudoh) spend the morning working on the presentation. During the afternoon, the students visited a waterfall and, after dinner restarted to work in the presentation.

May 24th: The presentation was prepared during the morning. In the afternoon, the groups presented their work and had the opportunity to explain and discuss the work with the other groups and lecturers. At night, there are a barbecue.

May 25th: The students departures to Osaka.

Through this experience, I have developed a clear vision on how to cope with different types of fern gametophytes, which will be of great help in the future conservation of ferns. I am currently working on a paper based on these results for publication in an academic journal.



Fig. 1: Gametophyte collection in second site.



Fig. 2: Sporophytes for dryer.

6. Others

Thanks for prof. Hiroshi Kudoh, prof. Shinohra and prof. Goro Hanya for assisting me in field and other students for assisting me in this course. Finally, I am grateful to PWS for funding this course